

SCDNR Marine Turtle Conservation Program ~ www.dnr.sc.gov/seaturtle/

LOGGERHEADLINES

2010 SCDNR MARINE TURTLE CONSERVATION PROGRAM AWARD RECIPIENTS



This year at the 2010 SCDNR Marine Turtle Program Post-Season Appreciation Meeting, five individuals were presented with awards. From left to right: Charlotte Hope received an award for her "Lifetime Dedication to Sea Turtle Conservation"; Gary McGraw and Betsy Brabson received awards for "Expanding the Horizons" by leading the new Capers and North Island sea turtle nesting surveys, respectively; Jeff McClary of the South Carolina United Turtle Enthusiasts received an award "In Appreciation for His 27 Years of Service" to sea turtle conservation because he is the longest serving volunteer in South Carolina (Jeff is not pictured above but Richard Hudak accepted the award in his absence); and Trent Eskew who managed the sea turtle project at the Yawkey Wildlife Center received an award for his "Efforts to Go the Extra Mile" for sea turtle conservation efforts on South and

Sand Islands. South Carolina has just over 1100 cooperators that work together for the conservation of sea turtles. SCDNR and the citizens of South Carolina are indebted to the time and commitment of these individuals and their dedication to sea turtle conservation.

seaturtle.org

SEA TURTLE NESTING IN 2010

There were 3151 nests on project beaches in 2010. Please refer to the table on page seven of this newsletter for nest counts on individual beaches. There were several new surveys this season (indicated in the table by red font color). The 2010 nest count is 2946 (excluding new surveys) compared with 2194 in 2009. The season also included three leatherback nests (Folly Beach, Hunting Island State Park and Hilton Head Island) and six green nests (Myrtle Beach State Park - one, Surfside Beach - one and Garden City - four). A summary is below but also visit the online sea turtle nest monitoring system hosted by seaturtle.org for further information on the 2010 nesting season:

www.seaturtle.org/nestdb/index.shtml?view=2.

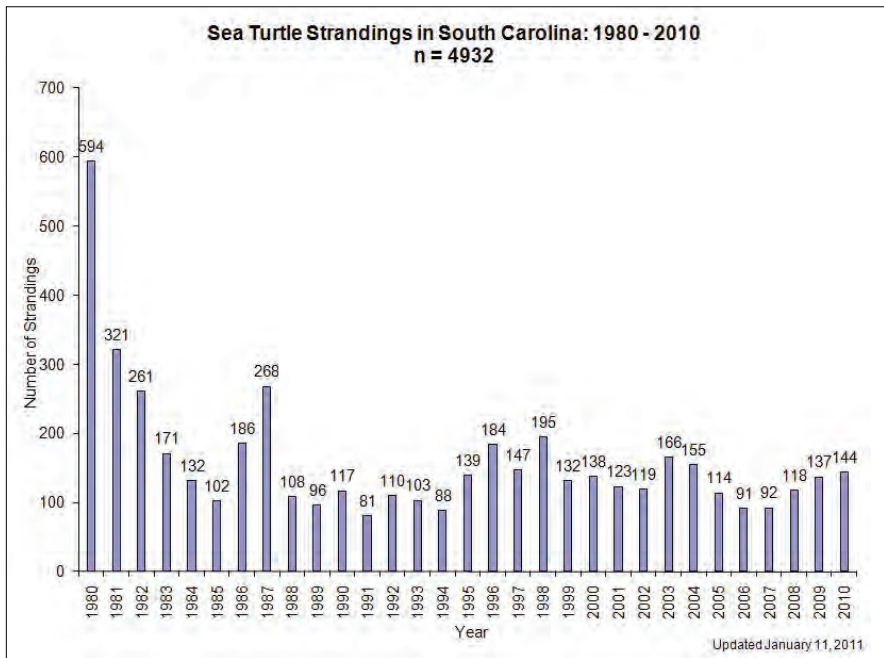
Nests: 3,150
In Situ: 1,491
 Relocated: 1,659 (52.6%)
 Hatchery: 325 (10.3%)
 Lost Nests: 189 (6%)
 False Crawls: 4461
 Mean Hatch Success: 65.1%
 Mean Emergence Success: 62%



Estimated Eggs to Date: 332,174
 Eggs Lost: 15,655 (4.7%)
 Hatched Eggs: 228,695
 Emerged Hatchlings: 217,626
 Mean Incubation Duration: 51.9 days
 Mean Clutch Count (Relocated Only): 113 eggs
 Program Nest Success: 85.5%
 Program Beach Success: 41.3%

STRANDING, POST-MORTEM AND REHAB NEWS

Strandings in 2010 ($n = 144$) were slightly higher than 2009 ($n = 137$), but not different from the 10-year mean of 130. Of these 144, 23 turtles stranded alive (seven were released, nine are undergoing care at the SC Aquarium and seven died). There was one stranding reported January through March, 10 in April, 39 in May, 30 in June, 24 in July, 18 in August and 22 September through December. The species composition of those stranded was 67 loggerheads, 46 Kemp's ridleys, 23 green, five leatherbacks and three unidentified. By county (north to south), Horry = 26, Georgetown = 9, Charleston = 68, Beaufort = 31, Colleton = 8 and Jasper = 1. Twenty-three post-mortem exams were performed. Eleven indicated an acute death (six



interacted with watercraft and two were entangled), six indicated chronic mortality (five were loggerheads that died from disease) and six could not be rated.

During December of 2010, there were three cold-stunned turtles (two live green sea turtles stranded on Hilton Head and one dead loggerhead was found floating near Lands End in Port Royal Sound).

Currently, there are 17 patients at the SC Aquarium Sea Turtle Rescue Program. Nine of these cases were transported from North Carolina in December during their recent cold stunning event. For more information, please visit <http://www.scaquarium.org>.



Three tag recaptures have been reported to us this year. A loggerhead that was rehabilitated at the South Carolina Aquarium's sea turtle hospital was recaptured alive by the SCDNR in-water survey off the coast of Wolf Island National Wildlife Refuge, GA on 7/5/2010. This male turtle, named "Stinky", was originally found debilitated and floating in the Port Royal Sound on 8/22/2000. He was released on 1/11/2001 at the Archie Carr National Wildlife Refuge. Stinky's weight increased from 103 to 176 pounds and his length grew by five inches between the initial stranding and recapture events (read more: http://www.dnr.sc.gov/news/yr2010/aug30/aug30_turtle.html).

Another loggerhead initially tagged while nesting on Cape Island on 6/25/2000 was observed nesting again on Cape on 7/24/2010.

A tagged leatherback stranded on Kiawah Island on 5/11/2010. This adult female was originally tagged on 6/2/2009 in Trinidad. Abrasions indicative of entanglement were present around the

The South Carolina Marine Turtle Conservation Program began in 1977 with beach management research. The program further developed in the early eighties with the formation of the nest protection and stranding volunteer networks along the coast of South Carolina. Today, the program encompasses research, management, monitoring and education within the local, regional and international communities. We are indebted to the continued passion, dedication and effort of our volunteers and staff.

Program Staff

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Charlotte Hope ~ Wildlife Biologist
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The South Carolina Department of Natural Resources prohibits discrimination on the basis of race, color, gender, national origin, disability, religion or age. Direct all inquiries to the Office of Human Resources, PO Box 167, Columbia, SC 29202.

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front left flipper, but no entanglement material was found.

A female leatherback that stranded this May on Surfside Beach was entangled in a stone crab pot line. The turtle initially became entangled in Murrell's Inlet. It was reported that the turtle was seen alive prior to stranding. Leatherbacks migrate through our state waters during the months of April, May, June, October and November feeding primarily on cannonball jellyfish (*Stomolophus meleagris*). Leatherbacks may feed just off the beach in large inlets and offshore. If you are on the water during these times, keep a lookout for entangled animals. Visit this page if you would like to read more about leatherbacks migrating through South Carolina waters:

<http://www.dnr.sc.gov/seaturtle/Literature/leatherback-high%20quality.pdf>.

NETWORK NEWS

Cape Romain NWR: In addition to having a great year for nesting loggerheads, help us congratulate Sarah Dawsey for her promotion into the position of Refuge Manager. Congratulations Sarah!

Yellow Rubber Duckies: This year we had a number of yellow rubber duckies wash up on the beaches in South Carolina. The origin of these duckies was never determined but we appreciate those that reported them to us. In total, 143 duckies were reported from Lighthouse Island in the North to Daufuskie Island in the south. The reports were concentrated around the Charleston Harbor.



Edisto Beach - Jamie Gaabo: Brad Drawdy will be taking over as coordinator for the Edisto Beach Town Project this year. He has been with the project for several years and also responds to sea turtle strandings on the island. He is always ready to help in any way needed. His enthusiasm, good ideas and commitment to the sea turtle project will make him an excellent leader for the group.



Isle of Palms - Mary Pringle: Wild Dunes Resort is replacing the "acorn" style glass light fixtures that are in front of the Inn, on their boardwalk and the pool deck with low turtle-friendly bollard style lights. Turtle Team member, Dick Johnson, who is a Wild Dunes resident has served as chairman of the Isle of Palms Beach Advisory Committee and more recently as Chairman of the Wild Dunes Beach Advisory Committee. Dick has always been knowledgeable regarding turtle-friendly lighting and has been a great advocate for darkening our beaches by advising the City and Wild Dunes Resort on which fixtures are the best. We are grateful to him for continuing to do so.

Daufuskie Island - Holley Miles: Daufuskie Island had 65 loggerhead nests for the 2010 season which is a record number since the project began in 2008.

Drought Monitor: Nest incubation duration can be affected by nest temperature and relative humidity (moisture). Monitoring drought conditions may help in understanding variation in incubation duration within and among seasons. For more information visit <http://drought.unl.ed.dm>.

SEATURTLE.ORG: Do not forget about our wonderful resource seaturtle.org. This web site has become the online source for all sea turtle news, events, jobs, current research and information. Seaturtle.org supports both our online nest and stranding databases. One great way to support seaturtle.org and your local project is by adopting a nest. Show your support for this great resource by visiting the site or donating today: <http://www.seaturtle.org>.

seaturtle.org

Value of Volunteer Time: This was the first year that we have attempted to comprehensively document volunteer time for the entire coast. We have over 1100 volunteers that contribute to sea turtle conservation efforts throughout the year. Documenting this volunteer time is important for matching federal grant dollars (financial support for the program) and emphasizing the importance of this natural resource to the public. The results this year were astounding. A total of 391 individuals documented their time (36% participation). These 391 participants dedicated 21,922 hours and drove 66,286 miles. Using \$16.26 per hour and \$0.50 per mile, this volunteer effort is valued at \$389,594.72 and provides grant matching power equal to \$1,168,782! This grant matching power is critically important to our program, especially during the current economic climate of our state. If you were not able to participate in 2010, we encourage you to contact your project leader or our office to learn how. If you did contribute this year, we thank you and would greatly appreciate your participation in the future. Visit here to learn more: <http://www.seaturtle.org/volunteer/>.

Protect Beach-Nesting Birds - Felicia Sanders: Remember from April to August beach-nesting birds congregate along the coast of South Carolina to breed. These include least terns and black skimmers that nest in groups called colonies and Wilson's plovers and American oystercatchers that nest singly. They nest above the high tide line and lay their eggs in nests that are a little more than a scrape in the sand. Eggs and chicks are camouflaged so they will not be seen by predators. Downy chicks leave their nests soon after hatching and wander between the dunes and water's edge to be fed. Young chicks may hide and rest in tire ruts below and above the high tide line. Beach-nesting birds are extremely sensitive to human disturbance. Every time a bird is forced to fly, it burns valuable energy needed to survive. When people wander too close to nesting areas, adults leave eggs and chicks exposed to extreme temperatures and predators. So please avoid driving above the high tide line where birds are possibly nesting. Be aware of birds calling loudly. This may indicate you are too close to a nest or chicks. Walk and drive carefully, especially at ends of islands and inlets, watching for cryptic eggs and chicks. These birds are declining and need your help. If you have questions about beach-nesting birds, please contact SCDNR biologist Felicia Sanders: sandersf@dnr.sc.gov. Photograph by Barbara Bergwerf.



SCDHEC OCRM Ocean Planning: Expanding offshore activities and increasing reliance on ocean resources may lead to future conflicts over sand resources, dredged material disposal, military training, ocean outfalls, and offshore energy development, among others. To better prepare and respond to these challenges, a new ocean planning effort has been initiated to explore research and planning issues related to ocean resources in South Carolina. A recently established Ocean Planning Work Group with representatives from federal and state agencies and academic institutions will meet with experts and stakeholders on various issues over the course of the next several years to develop a plan to guide future ocean research, data collection and mapping; policies and decisions of agencies with ocean authorities; and ocean education programs. For more information visit: http://www.scdhec.gov/environment/ocrm/ocean_planning.htm. Photos source: http://www.hornsrev.dk/Engelsk/default_ie.htm.

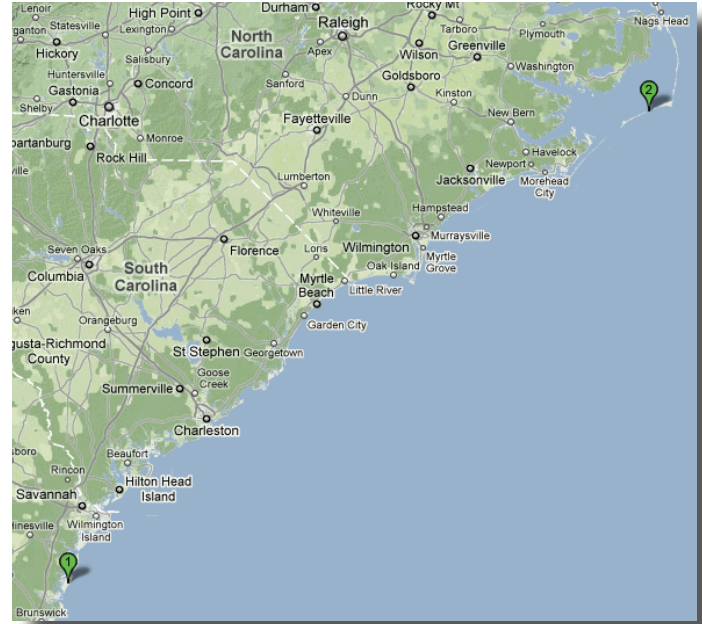


Farewell: This year we have to say goodbye to some valuable members of our program. Jamie Gaabo is turning over the Edisto Town Project to Brad Drawdy. Andrea Grabman of Edisto Beach State Park will be missed as she takes a new job with the South Atlantic Fisheries Management Council in Charleston. Gretchen Coll and Arturo Herrera of our staff have accepted full time jobs in California and Washington, D.C., respectively. They have all provided tremendous support for our program and sea turtle conservation in South Carolina. We wish them the best in the future!

REGIONAL NEWS

NORTHERN RECOVERY UNIT LOGGERHEAD DNA PROJECT

The GADNR, SCDNR and the NC Wildlife Resources Commission Sea Turtle Programs are participating in a multi-state genetics research project along with the University of Georgia to answer several basic loggerhead sea turtle nesting questions. The answers to these questions will help biologists better understand how the loggerhead population is doing. Currently, the actual number of loggerhead sea turtles that nest in these three states is not known (loggerheads nesting in these three states make up the Northern Recovery Unit which is genetically distinct from loggerheads nesting in Florida and other parts of the world). By collecting an egg from every single nest, we will use DNA genetic fingerprinting to identify individual loggerhead nesting females. This information will provide a census of the actual nesting population. The map above shows two nest locations for the same individual loggerhead. She nested on Blackbeard Island, GA on June 17th and then nested on Cape Hatteras, NC on July 7th. The locations are 658 km and 20 days apart. For complete information on the status of this project, please visit: <http://www.seaturtle.org/nestdb/genetics.shtml?program=2>.



Current DNA Results From 5811 Nests (as of January 11, 2011)

DNA Samples Assigned: 1,587 (27.3%)
 Unique DNA Fingerprints (individual females): 676
 Females with Only One Recorded Nest: 87
 Maximum Number of Beaches Visited: 4
 Nests per Female: 2.35
 Nests per Female: 2.93*
 Maximum Number of Nests: 6

Mean Site Fidelity Index: 19.19 km
 Minimum Index: 0.00 km
 Maximum Index: 658.44 km
 Mean Internesting Period: 19.20 days
 Mean Internesting Period: 13.05 days*

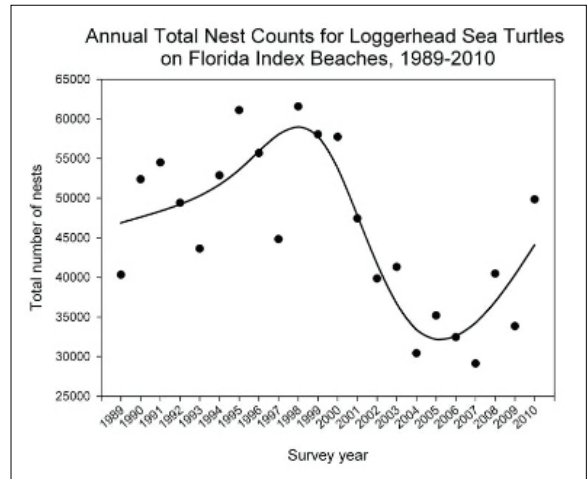
*corrected for possible missed nests

North Carolina - There were 846 loggerhead, 16 green, three Kemp's ridley and two leatherback turtle nests observed. The total number of stranded turtles was 854. North Carolina had several cold-stun events at the beginning and end of 2010.

Georgia - Georgia DNR cooperators located a total of 1760 loggerhead, six green and four leatherback nests in 2010. There were 138 sea turtle strandings this year.

Florida - Loggerhead sea turtle nest numbers in 2010 were above the average of the preceding 10-year period but do not reverse a recent declining trend. An updated analysis of Florida's long-term loggerhead sea turtle nesting data reveals that nest counts have declined 25% from 1998 to 2010, but that the trend over the 22-year period (1989 to 2010) may be stabilizing. The steep decline in loggerhead nest numbers followed an equivalent (26%) increase that occurred between 1989 and 1998. Nest counts for green turtles and leatherback turtles in Florida show an opposite trend from loggerhead turtles over the same period. In 2010, the number of leatherback and green turtle nests on index beaches was the second highest since the trend-monitoring program began in 1989. These two species nest on many of the same beaches in Florida as the loggerhead, but in much smaller numbers. For more information about sea turtle nesting in Florida, visit

http://research.myfwc.com/features/category_sub.asp?id=2309.



In January 2010, a massive sea turtle cold-stunning event occurred. An unusually prolonged period of very cold weather resulted in a preliminary estimate of over 4,500 cold-stunned turtles. Of those, an estimated 910 turtles died as a result of the cold-stunning. Approximately 95% of the turtles were found dead; only a small number of turtles that were found alive died after rescue. The majority of affected turtles were green turtles, but some loggerheads, Kemp's ridleys and hawksbills were also affected. The cold weather affects turtles in shallow water such as the Indian River Lagoon. Florida has also had another cold-stunning event in December 2010. Photo taken by the Florida Fish and Wildlife Commission.

Gulf of Mexico Oil Spill - The Deepwater Horizon oil spill in the Gulf of Mexico flowed for three months in 2010. The impact of the spill still continues even after the well was capped. It is the largest accidental marine oil spill in the history of the petroleum industry. The spill stemmed from a sea-floor oil gusher that resulted from the April 20, 2010 Deepwater Horizon explosion. The spill continues to cause extensive damage to marine and wildlife habitats as well as the Gulf's fishing and tourism industries. In late November 2010, 4,200 square miles of the Gulf were re-closed to shrimping after tar balls were found in shrimpers' nets. The total amount of Louisiana shoreline impacted by oil grew from 287 in July to 320 miles in late November. In January 2011, eight months after the explosion, an oil spill commissioner reported that tar balls continue to wash up, oil sheen trails are seen in the wake of fishing boats, wetlands marsh grass remains fouled and dying, and that crude oil lies offshore in deep water and in fine silts and sands onshore. To learn more about the effect of the oil spill visit: <http://www.gturtle.net/>. Our local sea turtle veterinarian, Dr. Shane Boylan traveled to the Gulf states on three separate occasions to assist NOAA with treatment of oiled sea turtles.

SCDNR Regional In-Water Sea Turtle Trawl Survey - Mike Arendt: The in-water sea turtle trawl survey completed its 11th season of sampling this summer. This year the sampling design was modified to evaluate (1) the effect of repeat sampling at stations, and (2) factors that may influence catch and recapture rates. No difference in catch rates were noted between the original design and the modified design. Increased recapture rates were only associated with repeat trawling at a turtle 'hot spot' near the Altamaha Reef in GA. Loggerheads were never collected at more than half of the stations sampled, and only always collected at four stations associated with a 'hot spot' area near Nassau Sound, FL. In total, 134 loggerheads, 14 Kemp's ridleys and one green sea turtle were collected. Despite approximately 25% of loggerheads exhibiting a physical injury, blood values suggested turtles were otherwise healthy.

SC Projects	2009	2010
Waties Island	8	2
North Myrtle Beach	2	11
Myrtle Beach*	4	4
Myrtle Beach S.P.	1	1
Surfside Beach*	1	2
Garden City	0	5
Huntington Beach S.P.	7	9
Litchfield Beaches	9	9
Pawleys Island	9	16
DeBordieu/Hobcaw	38	29
North Island*	ND	26
Sand Island*	24	66
South Island	97	138
Cape Island	750	1045
Lighthouse Island	141	177
Bull Island	109	138
Capers Island*	ND	11
Deweese Island	16	15
Isle of Palms	19	23
Sullivan's Island	4	2
Morris Island*	ND	1
Folly Beach	35	54
Kiawah Island	128	219
Seabrook Island	37	68
Botany Island	72	97
Botany Bay Plantation	131	176
Interlude*	ND	14
Edingsville Beach	64	58
Edisto Beach S.P.	68	103
Edisto Beach	77	80
Otter Island*	ND	5
Harbor Island	25	30
Hunting Island	80	111
Fripp Island	27	25
Little Capers Island*	ND	39
St. Phillips Island*	ND	3
Bay Point Island*	ND	35
Hilton Head Island	180	239
Daufuskie Island	31	65
TOTAL	2194	3151

Red indicates a new survey. Asterik indicates incomplete counts for 2010. Increase in nest numbers from 2009 is in part due to an increase in survey effort.

2010 PHOTO COLLAGE

South Carolina has just over 1100 cooperators that work together for the conservation of sea turtles. SCDNR and the citizens of South Carolina are indebted to the time and commitment of these individuals and their dedication to sea turtle conservation.



ANNOUNCEMENTS FROM THE SEA TURTLE OFFICE

31st Annual Sea Turtle Symposium in San Diego, CA - April 12-15: Visit:
<http://iconferences.seaturtle.org/>.

Loggerheadlines can be read online at www.dnr.sc.gov/seaturtle/. Please let us know if you would like to use this resource and prefer not to get a hard copy in the mail.

SC CTurtle List Serve - If you would like to join, please send an email to coastbio@dnr.sc.gov.

Beach Vitex Task Force: Please continue to report any possible locations of beach vitex by submitting a report form online. It is important that the plant not be removed until it has been positively identified. Visit: www.beachvitex.org.

Protect Beach-Nesting Birds: Remember from April to August beach-nesting birds congregate along the coast of South Carolina to breed. These birds are declining and need your help. If you have questions about beach-nesting birds, please contact SCDNR biologist Felicia Sanders: sandersf@dnr.sc.gov.

Adopt-a-Sea-Turtle-Nest: You can now adopt-a-nest in South Carolina. Proceeds benefit the individual project and seaturtle.org. For more information visit <http://www.seaturtle.org/nestdb/adopt/>.

Educational Resources: Please visit our education page for sea turtle educational materials: <http://www.dnr.sc.gov/seaturtle/outreach.htm>.

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SCDNR Needs Your Support! Citizens of South Carolina can support DNR through the purchase of the endangered species license plate and Check Off for Wildlife. The Endangered Wildlife Fund is the foundation of support for threatened and endangered wildlife in South Carolina. Look for line 26 on the long form (SC1040) or line 13 on the short form (SC1040A) of the South Carolina Department of Revenue Individual Tax Return form, then complete and submit Form I-330. Help us keep wildlife in your life! Direct donations can be made to the sea turtle program. For more information visit: <http://www.dnr.sc.gov/seaturtle/support.htm>.

